



west virginia department of environmental protection

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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.: G40-C089
Plant ID No.: 777-00145
Applicant: Mountaineer Contractors, Inc.
Facility Name: Monongalia County / Berkeley County
Location: Airport Road, Monongalia County / LCS Services, Berkeley County
SIC Code: 1422 (Crushed and Broken Limestone)
NAICS Code: 212312
Application Type: Construction
Received Date: March 06, 2017 (Monongalia County)
March 17, 2017 (Berkeley County)
Engineer Assigned: Thornton E. Martin Jr.
Fee Amount: \$1,500
Date Received: \$500 - March 08, 2017; \$1,000 - March 13, 2017
Complete Date: May 24, 2017
Applicant Ad Date: March 04, 2017 and March 17, 2017; Re-published both on April 21, 2017
Newspaper: *The Dominion Post* and *The Journal*
UTM's: Site 1 - Easting: 593.06126 km Northing: 4389.78021 km Zone: 17
Site 2 - Easting: 243.89377 km Northing: 4385.07017 km Zone: 17
Description: Applicant proposes to construct and operate a portable crushing/screening plant for a work site in Monongalia County and then relocate the crushing/screening unit to a work site in Berkeley County.

PROCESS DESCRIPTION

Site 1: 40 Point Marion Road
District 4 - Monongalia County
Airport Road - Easton Elementary Upgrade
Morgantown, WV 26508

The purpose of this Application is to set up a portable rock crushing unit to crush rock

excavated at an active construction site. This processed rock will be placed onsite for various uses, such as riprap, energy dissipaters, and/or fill material.

The process will begin with a hydraulic loader moving previously stockpiled rock to the Metso 2008 LT-106 Track Jaw Crusher feeder hopper (TP1). The vibrating grizzly feeder hopper transfers the rock to the jaw crusher at (TP2). The material will go from the jaw crusher to the main product conveyor, (BC-1) at (TP3). A factory installed water spray bar will provide for dust suppression for the main product conveyor. From the conveyor, the processed rock will go to a hopper on a screen (TP4). The hopper will feed a conveyor, (BC-2) at (TP5) and then to a double deck screen (TP6). The Terex 883 screen will send different sized material onto one of two conveyor belts, (BC-3 and BC-4) at transfer points (TP-7 and TP-8) or fall to the ground at (TP9). These two (2) conveyor belts will make separate stockpiles or load onto trucks (TP10 and TP11). A water truck will provide dust suppression for the stockpiles.

Site 2: 911 Allensville Rd.
 District 5 - Berkeley County
 LCS Services - Waste Management
 Hedgesville, WV 25427

The work at the second site will consist of setting up the portable crushing/screening units to screen stockpiled material at an active construction site. This processed material will be placed onsite to be used as subbase material and final cover soils.

The process will begin with a hydraulic loader moving previously stockpiled rock to a hopper on the Terex 883+ Spaleck Screener (TP1). The hopper will feed a conveyor, (BC-2) at (TP2) and then to a double deck screen (TP3). The screen will send different sized material onto one of two conveyor belts, (BC-3 and BC-4) at transfer points (TP4 and TP5) or fall to the ground at (TP6). These two (2) conveyor belts will make separate stockpiles or load onto trucks (TP7 and TP8). A water truck will provide dust suppression for the stockpiles.

The facility shall be constructed and operated in accordance with the following equipment and control device information taken from registration application G40-C089 for both Site 1 and Site 2:

Table 1: Equipment Summary

Equipment ID No.	Date of Manufacture	Description	Maximum Capacity		Control Equipment ¹
			TPH	TPY	
OS-1	2017	3,000 Ton Open Stockpile of Raw Material	----	288,000	SW-WS
CR-1	2008	Metso LT-106 Jaw Crusher - recieves raw material from stockpile OS-1, crushes then transfers processed rock onto belt conveyor BC-1	300	288,000	CS-FW

Equipment ID No.	Date of Manufacture	Description	Maximum Capacity		Control Equipment ¹
			TPH	TPY	
BC-1	2008	Belt Conveyor - receives raw material from the vibrating grizzly feeder and transfers to the Jaw Crusher CR-1	300	288,000	N
BC-2	2015	Belt Conveyor - receives processed rock from the screen feeder and transfers to the double deck screen	300	192,000	N
SC-1	2015	Double Deck Terex 883 Screen - receives processed rock from belt conveyor BC-1 and transfers sized material to either belt conveyor BC-3 or to belt conveyor BC-4	110	105,600	CS-FE
BC-3	2015	Belt Conveyor - receives sized rock from the screen and transfers to open stockpile OS-2	300	192,000	N
OS-2	2017	3,000 Ton Open Stockpile receives sized rock from belt conveyor BC-3	----	192,000	SW-WS
BC-4	2015	Belt Conveyor - receives sized rock from the screen and transfers to open stockpile OS-3	300	288,000	N
OS-3	2017	2,000 Ton Open Stockpile receives sized rock from belt conveyor BC-4	----	288,000	SW-WS
E-1	2008	Caterpillar C9 Diesel Engine, Tier 3 Certified	300 bhp/2,200 rpm		N
E-2	2008	Caterpillar C4.4 Diesel Engine, Tier 3 Certified	110 bhp/2,200 rpm		N

¹ CS-FW - Full Enclosure w/water spray; CS-FE - Full Enclosure; SW-WS - Water Sprays; N - None

DESCRIPTION OF FUGITIVE EMISSIONS

The potential sources of fugitive particulate emissions are:

- a) Feeding Vibratory Grizzly Feeder Hopper
- b) Vibrating Grizzly Feeder Hopper
- c) Jaw Crushing
- d) Main Product Conveyor
- e) Crusher Conveyor to Screen Hopper
- f) Screen Hopper to Conveyor
- g) Conveyor to Screen
- h) Screen to Conveyor
- i) Screen to Side Conveyor

The primary fugitive dust control equipment will be a 3,000 gallon water truck. The water truck will be primarily used to control fugitive particulate emission on the haul roads and stockpiles. By wetting the material in the surge pile and stockpile, fugitive particulate emissions will also be controlled at the receiving hopper and conveyor by moisture carryover. The water truck has a maximum application rate of approximately 10,000 gph and application frequency will be dependent on environmental conditions. The frequency will vary from zero during rainy conditions to approximately four (4) to five (5) applications per day during extremely dry conditions. In addition to the water truck, a factory installed spray bar on the main product conveyor will be used. This

spray system has a maximum application rate of 1,000 gph. Again, the frequency rate will vary depending on the environmental conditions. The spray bar will be used continuously during operation.

SITE INSPECTION

Mountaineer Contractors, Inc. are proposing to setup and operate their portable crushing and screening units within existing construction boundaries at the proposed sites, therefore, a site inspection was not deemed necessary at this time in conjunction with this permitting action.

Directions: **Site 1** - Mountaineer Contractors, Inc. Is the prime contractor constructing WVDOH roadway improvement within WVDOH right-of-way. From WV 857, travel West - Site is at the intersection of WV 119 and WV 857.

Site 2 - Mountaineer Contractors, Inc. Is the prime contractor constructing a waste cell and LCS Services Landfill. From Hedgesville, WV, take Route 901 North approximately 1 mile. Turn left onto County Route 3/2. Travel approximately 1 mile. Site is on the left.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Fugitive emission calculations for continuous and batch drop operations, transfer points, crushing and screening, storage piles, and paved and unpaved haul roads are based on AP-42 "Compilation of Air Pollution Emission Factors." Control efficiencies were applied based on the Reference Document for General Permit G40-C. The estimated emission calculations were performed by the applicant's consultant using the General Permit G40-C Excel emission calculation spreadsheet.

The engine emissions included in the application are based on the Manufacturers Data Sheet or EPA's Certificate of Conformity.

The proposed construction and operation at both Sites will result in the estimated potential to discharge controlled emissions of 1.96 TPY of PM (particulate matter) and 0.90 TPY of PM₁₀ (particulate matter less than 10 microns). Estimated emissions based on the Tier 3 standard for the two Caterpillar engines operating for up to 960 total hours are 0.87 TPY of CO (Carbon Monoxide), 0.82 TPY of NO_x (Nitrogen Oxides), 0.28 TPY of VOC (Volatile Organic Compounds) and 0.02 TPY of PM₁₀ combined. Refer to the following tables for a complete summary of the proposed facility's emissions:

Table 2: Emissions Summary (*less Engines*)

Emissions Summary - Mountaineer Contractors, Inc. Monongalia County, Berkeley County	Controlled PM Emissions		Controlled PM ₁₀ Emissions	
	lb/hour	TPY	lb/hour	TPY
Fugitive Emissions				
Stockpile Emissions	0.05	0.22	0.02	0.10
Unpaved Haulroad Emissions	0.00	0.00	0.00	0.00
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	<i>0.05</i>	<i>0.22</i>	<i>0.02</i>	<i>0.10</i>
Point Source Emissions				
Equipment Emissions	0.61	0.29	0.22	0.11
Transfer Point Emissions	2.97	1.43	1.40	0.67
Point Source Emissions Total	<i>3.58</i>	<i>1.72</i>	<i>1.63</i>	<i>0.78</i>
FACILITY EMISSIONS TOTAL	3.63	1.94	1.65	0.88

Table 4: Engine Emissions (Tier 3)

Source	Pollutant	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (tons/yr)
E-1 & E-2	Carbon Monoxide	1.82	0.87
	Nitrogen Oxides	1.70	0.82
	Volatile Organic Compounds	0.58	0.28
	Sulfur Dioxide	N/A	N/A
	PM ₁₀	0.02	0.02
	Formaldehyde	N/A	N/A

REGULATORY APPLICABILITY

PSD has no applicability to the proposed facility. The proposed construction and operation of a portable crusher/screening plant is subject to the following state and federal rules:

45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

The facility is subject to the requirements of 45CSR7 because it meets the definition of "Manufacturing Process" found in subsection 45CSR7.2.20. The facility should be in compliance with Subsection 3.1 (no greater than 20% opacity), Subsection 3.7 (no visible emissions from any storage structure pursuant to subsection 5.1 which is required to have a full enclosure and be equipped with a control device), Subsection 4.1 (PM emissions shall not exceed those allowed under Table 45-7A), Subsection 5.1 (manufacturing process and storage structures must be equipped with a system to minimize emissions), Subsection 5.2 (minimize PM emissions from haulroads and plant premises) when the particulate matter control methods and devices proposed within application G40-C085 are in operation.

According to Table 45-7A, for a type 'a' source with a maximum process weight rate of

600,000 lb/hour, the maximum allowable emission rate is 50 lb/hour of particulate matter. The maximum emission rate is 3.60 lb/hour of particulate matter according to calculated emissions in fact sheet G40-C089.

45CSR13 Permits for Construction, Modification, Construction and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

The proposed construction is subject to the requirements of 45CSR13 because it has the potential to discharge air pollutants subject to a new source performance standard (NSPS) promulgated under section 111 of the Clean Air Act [including section 111(d)], which requires new and modified sources to satisfy emissions standards, work practice standards and other requirements. [45CSR13-2.20.e.] The applicant has applied for a G40-C registration to construct, submitted the proper \$1,500 application fee and published a Class I legal advertisement in *The Dominion Post* and *The Journal* on March 4, 2017 and March 17, 2017, respectively.

45CSR16 Standards of Performance for New Stationary Sources
40 CFR 60 Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants

The proposed construction is subject to 40 CFR 60 Subpart OOO because it will occur after April 22, 2008 and the plant processes more than 150 tons of rock per hour. The proposed construction will include one (1) screen, one (1) jaw crusher and four (4) belt conveyors, which are defined as affected facilities in 40 CFR 60 Subpart OOO. Therefore, the proposed construction is subject to 45CSR16, which incorporates by reference 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants. The facility should be in compliance with 60.672 (b) no greater than 7% opacity from any transfer point on belt conveyors or from any other affected facility (as defined in 60.670 and 60.671) and no greater than 12% opacity from any crusher when the particulate matter control methods and devices proposed within application G40-C089 are in operation.

45CSR30 Requirements for Operating Permits

In accordance with 45CSR30 Major Source Determination, the portable crushing facility will be a non-major source which is subject to NSPS Subpart OOO and NSPS Subpart IIII. The facility's potential to emit will be 0.80 TPY of a regulated air pollutant (PM₁₀), not including fugitive emissions, which is less than the 45CSR30 threshold of 100 TPY. Therefore, the facility will be subject to 45CSR30 and classified as a Title V deferred non-major source.

45CFR60 Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Mountaineer Contractors, Inc. is subject to this subpart because the engines were manufactured after April 1, 2006. The engine emissions for E-1 and E-2 are EPA Tier 3 Certified.

40CFR63 Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Mountaineer Contractors, Inc. is subject to 40CFR63 Subpart ZZZZ, because E-1 and E-2 are considered a new area source of HAP's since they will be constructed on or after June 12, 2006, however, the only requirements that apply are those required under 40CFR60 Subpart III.

The proposed construction of Mountaineer Contractors, Inc.'s portable crushing/screening facility is not subject to the following state and federal rules:

45CSR14 Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration

The facility will have the potential to emit 1.74 TPY of a regulated air pollutant (PM), not including fugitive emissions, which is less than the 45CSR14 threshold of 250 TPY. This facility is not listed in Table 2, and so fugitive emissions are not included when determining source applicability. Therefore, the proposed construction is not subject to the requirements set forth within 45CSR14.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

Various VOC/non-criteria regulated pollutants are emitted from the incomplete combustion of diesel fuel. These emissions, however, are generally small and do not adversely impact the quality of the surrounding ambient air.

AIR QUALITY IMPACT ANALYSIS

Air dispersion modeling was not performed due to the size and location of this facility and the limit of the proposed construction. This facility will be located in Monongalia County, WV, which is currently designated as attainment for PM_{2.5} (particulate matter less than 2.5 microns in diameter). Berkeley County is considered attainment for PM_{2.5} with an approved Maintenance Plan (1997).

GENERAL PERMIT ELIGIBILITY

The proposed construction of this facility meets the applicability criteria (Section 2.3), siting criteria (Section 3.1) and limitations and standards (Section 5.1) as specified in General Permit G40-C.

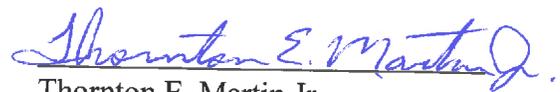
MONITORING OF OPERATIONS

G40-C registrants will be required to perform the following monitoring and recordkeeping:

1. Monitor and record daily and monthly records of the amount of nonmetallic minerals processed.
2. Monitor and record calendar monthly and calendar annual quantity of fuel consumed and hours of operation for all engines and combustion sources.
3. Monitor and record calendar annual quantity of organic liquid throughput in all registered storage tanks.
4. Conduct visual observations of all points listed in the registration that are subject to opacity limits.
5. Conduct annual preventative maintenance/inspection, and all routine maintenance service and repairs as required, to facilitate proper control device performance, for the control devices listed in the registration.
6. Perform are applicable required monitoring, recordkeeping, reporting and testing that is required under 40CFR60 Subparts OOO, IIII, and JJJJ.
7. These records shall be maintained on-site for a minimum of five (5) years from the date of record creation and shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

RECOMMENDATION TO DIRECTOR

The information contained in this construction application indicates that compliance with all applicable regulations should be achieved when all proposed particulate matter control methods are in operation. Due to the location, nature of the process, and control methods proposed, adverse impacts on the surrounding area should be negligible. No public comments were received. Therefore, the granting of a G40-C registration to Mountaineer Contractors, Inc. for the construction and operation of a portable crusher and screening facility located at one of two locations, in Monongalia County or Berkeley County, WV is hereby recommended.



Thornton E. Martin Jr.,
Permit Engineer

May 24, 2017

Date